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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,758	09/27/2003	Carl E. Love	BEA920020005US1	1034

7590 03/07/2007  
Law Offices of Michael Dryja  
704 228th Avenue NE PMB 694  
Sammamish, WA 98074

EXAMINER
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GUYTON, PHILIP A

ART UNIT	PAPER NUMBER
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2113

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,758

Applicant(s)

LOVE ET AL.

Examiner

Philip Guyton

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 13, 14, 16-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10-12, 15 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, filed 6 December 2006, with respect to the rejection of claims 1-15 under Coon have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Greenlaw and Zak.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 7-9, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,922,456 to Greenlaw et al. (hereinafter Greenlaw).

With respect to claim 1, Greenlaw discloses a hardware counter (figure 1A, item 110A – counter system) comprising:

a memory array (figure 1A, item 120 – count memory) storing a plurality of counter values indexable by an index constructed based at least on a number of a plurality of events to which the counter values correspond (column 3, lines 24-29); and

a hardware incrementer (figure 1A, items 110 and 130 – count engine and adder) to read the counter values from the memory array by values of the index, increment the counter values, and write the counter values as incremented back into the memory array (column 3, lines 47-60).

With respect to claim 2, Greenlaw discloses wherein the index is constructed as a number of bits binarily representing the number of the plurality of events (column 3, lines 36-46).

With respect to claim 7, Greenlaw discloses wherein the hardware incrementer comprises a hardware adder (figure 1, item 130) that adds an increment value to the counter values, such that results of adding the increment value to the counter values is written back into the memory array (column 3, lines 47-60).

With respect to claim 8, Greenlaw discloses wherein the hardware incrementer further comprises a register storing the increment value (column 3, lines 55-60).

With respect to claim 9, Greenlaw discloses:  
index generation hardware to generate the index (column 3, lines 32-46); and,  
hardware to read the counter values from the memory array by the values of the index and write the count values to the memory array (figure 1, items 110 and 130 and column 3, lines 47-60).

With respect to claim 13, Greenlaw discloses a method comprising:  
generating via hardware a value of an index based on one of a plurality of events, a count value for an occurrence of which is to be incremented (column 3, lines 32-46);

Art Unit: 2113

reading by the value of the index the counter value from a memory array indexed by the index (column 3, lines 47-53);

incrementing via hardware the counter value (column 3, lines 53-60); and,

writing the counter value as incremented back into the memory array (column 3, lines 58-60).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,360,337 to Zak et al. (hereinafter Zak).

With respect to claim 16, Zak discloses a system comprising a plurality of nodes (figure 2, items 12A-D), each node having a processor (figure 2, items 16) and one node having a performance counter (figure 2, item 300) operatively coupled to the processor to count occurrences of events (column 2, lines 23-25), the performance counter having a lesser number of hardware incrementers than a number of the events of which the performance counter counts the occurrences (column 2, lines 41-44).

However, Zak does not disclose expressly wherein each node has a performance counter.

Art Unit: 2113

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify Zak so that each node has a performance counter. A person of ordinary skill in the art would have been motivated to do so because performance counters are utilized to identify bottleneck conditions, as well as optimize system performance (column 1, lines 47-53 and column 3, lines 34-41). Since it is not known where a bottleneck could occur, it would have been obvious to include a performance counter in each node to identify where a bottleneck occurs. Also, it would have been desirable to optimize every node in the system, as opposed to a single node. Thus, it would have been obvious to a person of ordinary skill in the art to include a performance counter in each node.

With respect to claim 17, Zak discloses wherein the performance counter counts occurrences of combinations of events and qualifiers (column 4, lines 1-61), the performance counter having a lesser number of hardware incrementers than a number of the combinations of the events and the qualifiers of which the performance counter counts the occurrences (figure 1A and column 4, lines 27-41).

With respect to claim 18, Zak discloses wherein the performance counter comprises a memory array (figure 1, item 160 – results storage and column 5, line 61-column 6, line 5) storing counter values for counting the occurrences of events, and a single hardware incrementer (figure 1, item 150 and column 2, lines 41-53) to increment the counter values of the memory array in response to the occurrences of the events to which the counter values correspond.

With respect to claim 20, Zak discloses wherein each node further comprises memory that is local to the processor of the node and remote to the processor of every other of the nodes (figure 2, items 18, 22).

6. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenlaw in view of Zak.

Greenlaw does not disclose expressly wherein the index is constructed further based on a number of a plurality of qualifiers to the plurality of events.

However, Zak discloses wherein the index is constructed further based on a number of a plurality of qualifiers to the plurality of events (column 4, lines 1-61).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Greenlaw by further constructing indices based on a number of a plurality of qualifiers as taught by Zak. A person of ordinary skill in the art would have been motivated to do so because Zak teaches wherein a single event, such as number of entries in a queue, may have multiple triggers (column 4, lines 1-15). Greenlaw, in one embodiment, teaches monitoring events such as collisions, data bytes and errors in a media access block (column 1, line 53-column 2, line 4). Thus, it is clear that these types of events can also have multiple triggers, and therefore, it would have been obvious to include the teachings of Zak.

***Allowable Subject Matter***

7. Claims 4-6, 10-12, 15, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Guyton whose telephone number is (571) 272-3807. The examiner can normally be reached on M-F 8:00-4:30.

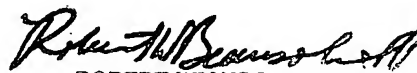
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2113

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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